Instructions for GO Analysis
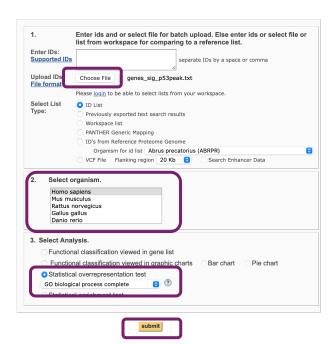
GO Analysis Overview

Background

- This Panther GO website will do GO analysis for you (https://www.pantherdb.org)
- GO looks at the list of genes that are significantly different, and compares it to full list of genes that were <u>measured</u> in the experiment. <u>MEASURED</u> is important. It is a mistake to compare to *all* genes in the genome. Not all genes are expressed in your cell. You need to compare to just the genes actually *in* your experiment.
- <u>I already had you make these lists!</u> These should be in a folder on your local computer. Only you know where you put them, but the path should be in the format "*<your/computer/path>*/day9/results"
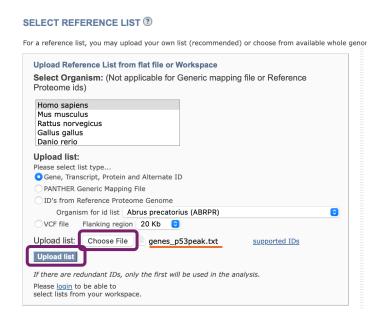
General Protocol

1. Go to https://www.pantherdb.org
2. On this page there are numbered box.
3. In box 1, there is a "Choose File" button. This is where you upload your list of significantly differentially expressed genes. Do that now.
4. In box 2, select "Homo sapiens"
5. In step 3, select "Statistical overrepresentation test"
   a. Then choose "GO biological processes complete"
6. Now hit submit.

You have been redirected to a new webpage. This is where you upload your "reference", also known as your "background", list.

7. At the bottom of the box there is a "Choose File" button. Click that and select your background list of genes.
8. You need to then hit the blue "Upload list" button. *You can ignore the box on the right for this exercise*.

It will take seconds-to-minutes to run, but then you will get _results_!!! They should look like the screenshot below. It worked! We got p53 back!

Congrats, now you know how to do GO analysis.